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Nota di contenuto	Introduction -- Experimental setup and methods -- Band structure engineering in TIs -- Topology-driven magnetic quantum phase transition -- Quantum anomalous Hall effect -- Dichotomy between electrical and thermoelectric properties -- Concluding remarks -- References -- Acknowledgement -- Appendix A -- Appendix B -- Publications.
Sommario/riassunto	This book presents the transport studies of topological insulator thin films grown by molecular beam epitaxy. Through band structure engineering, the ideal topological insulators, (Bi1xSbx)2Te3 ternary alloys, are successfully fabricated, which possess truly insulating bulk and tunable conducting surface states. Further transport measurements on these ternary alloys reveal a disentanglement between the magnetoelectric and thermoelectric properties. In magnetically doped topological insulators, the fascinating quantum anomalous Hall effect was experimentally observed for the first time. Moreover, the topology-driven magnetic quantum phase transition was Systematically controlled by varying the strength of the spin-orbital coupling. Readers

will not only benefit from the description of the technique of transport measurements, but will also be inspired by the understanding of topological insulators.